

although diminishing, the temperature was remarkably high :—

9,600 feet	...	...	...	1° Centigrade
12,000 "	...	...	...	0° "
13,200 "	...	...	...	0° "
15,420 "	...	...	...	-5° "
19,600 "	...	...	...	-8° "
22,960 "	...	...	...	-10° "

The temperature of the gas in the interior of the balloon was also observed by a new system. It was found to vary very little, owing to the heating power of the sun, and at 22,900 feet was found to be $+25^{\circ}$, showing a difference of -35° centigrade with the temperature of the air.

This result is extremely remarkable, and was observed at several intervals, although the gas ought to suffer a diminution of temperature owing to its constant dilatation.

Although the air was clear and the sky quite blue, a number of cirrus clouds were seen on the horizon, which could not be seen from the surface of the earth.

As far as can be inferred from the ascertained facts, there was no sensible variation in the direction of the air for an immense altitude. It accounts for the unprecedented beauty of the weather and the purity of the air; it may be taken as a fair prognostic of the continuance of good weather for at least a few days.

The aeronauts had in their cars maximum barometers in a sealed box, in order to test the altitude in which they were travelling. These tubes, having been saved, will be tested in the laboratory of M. Hervé-Mangon.

M. Tissandier was slightly hurt in his fall. Great sympathy has been elicited for Sivel and Crocé-Spinelli, who may be said to have spent their lives in the battle-field of the air. Sivel was formerly a captain of the mercantile navy; his age was forty-two years. Crocé-Spinelli was a pupil of the École Centrale, and was thirty-two years of age. The former was a widower, and leaves a girl, and the second was a bachelor. A subscription is being contemplated for the fatherless child.*

The *Zenith* is in good order, and will be put in repair. Although marred by a sad tragedy, and although the composition of the air has not been ascertained, as was contemplated, the expedition cannot be said to be devoid of results. It will serve as an incitement to further investigation in the same direction, but with greater caution.

W. DE FONVIELLE

Since the date of our correspondent's letter, it would seem from the indications shown by the uninjured barometers that the height reached was actually 14,000 metres, or eight miles. On Tuesday the bodies of Sivel and Spinelli were interred with well-deserved honours in Père la Chaise, many eminent scientific men being present. Subscriptions on behalf of those who were dependent on the two martyrs to science will, we believe, be received at the office of the *Courrier de l'Europe*, Tavistock Street, Covent Garden.

NOTES

THE Royal Society during the present session have elected the following nine eminent scientific men as foreign members :— Pierre J. van Beneden, of Louvain; Joseph Louis François Bertrand, of Paris; Alfred Louis Olivier Des Cloizeaux, of Paris; Hippolyte Louis Fizeau, of Paris; Elias Magnus Fries, of Upsal; Jules Janssen, of Paris; Auguste Kekulé, of Bonn; Gustav Robert Kirchhoff, of Berlin; and C. Ludwig, of Leipsic.

* The *Times* correspondent states that M. Sivel leaves a widow as well as a child, and that M. Spinelli was the sole support of his parents. To quote the words of the correspondent, "The scientific world will doubtless respond liberally to this appeal, for MM. Spinelli and Sivel lost their lives, not in gratifying foolhardy curiosity, but in endeavouring to penetrate the secrets of the atmosphere for the benefit of science." M. Tissandier's own account of the journey will be found in Monday's *Times*.

Also the Earl of Carnarvon, Mr. W. E. Forster, and Sir Stafford Northcote have been elected Fellows of the Society.

THE names of the fifteen candidates for the Fellowship selected by the Council of the Royal Society to be recommended for election at the meeting on June 3 are W. Archer, J. R. Bennett, D. Brandis, J. Caird, J. Casey, A. Dupré, J. Geikie, J. W. L. Glaisher, J. B. N. Hennessey, E. Klein, E. Ray Lankester, Capt. Nares, R. S. Newall, W. C. Roberts, and Major-General Scott.

THE annual meeting of French astronomers took place recently at the Ministry of Public Instruction, under the presidency of M. Leverrier. It was composed of M. Dumesnil, the director of the Enseignement Supérieur, the members of the Council of the Paris Observatory, and the directors of the Marseilles and of Toulouse Observatories. The Observatory at Algiers not having been yet reorganised was not represented, though measures are very shortly to be taken to get this done. An Observatory is to be created at Bordeaux, and another at Toulouse. It is stated, moreover, that a Physical Observatory is to be created in Paris or the vicinity, and placed under the direction of the Bureau des Longitudes. The Council of the Observatory is said to have unanimously passed a vote recommending that no one should be a member of two observatories at the same time.

GENERAL SIR EDWARD SABINE has been elected a corresponding member of the French Academy of Sciences.

THE German Anthropological Society will hold its general meeting at Munich in August next, and it is intended to arrange an exhibition of the most interesting objects of Celto-Germanic origin, found upon Bavarian ground. Bavaria possesses great treasures of this kind in its Government and private collections, and these objects are of the highest importance as regards the history and culture of the earliest periods. Men of scientific authority will superintend the exhibition, which, it is proposed, is to consist of the following seven groups :—1. Flint implements found in Bavaria, such as hammers, knives, arrows, &c. 2. Bronze weapons and ornaments of the same material, particularly swords, daggers, lances, arrow-points, sickles, and objects used for personal adornment. 3. Iron weapons, such as swords, hatchets, daggers, and knives. 4. Ornaments of amber, glass, or earthenware (beads). 5. Glass and earthenware vases. 6. Casting-moulds for Celto-Germanic weapons. 7. Coins, principally Celtic ones, the so-called "rainbow-dishes." All the objects will be well taken care of, and a guarantee is given for safe keeping and return. All expenses for carriage will be defrayed by the Society.

DR. SCHWEINFURTH has just received news from the Upper Nile, stating that Mohamed Abd-es-Samat, the Nubian ivory dealer who had rendered the German traveller most important help in pursuing his explorations in the Niam-Niam and Mom-buktu districts, was killed in December last by Niam-Niam soldiers, who had besieged and finally taken his Seriba (a sort of block-house). The assistance rendered to Dr. Schweinfurth by this ivory dealer was of the highest importance, and was acknowledged both by the German and Egyptian Governments. The history of the investigation of Inner Africa, which impartially notes down the names of all men of merit, independent of their nationality, faith, or colour, will also preserve that of Abd-es-Samat, by the side of his illustrious German friend.

THE *Kölnische Zeitung* of April 17 contains an elaborate and highly interesting account of the festival which took place at Naples a few days ago, upon the occasion of the opening of the Zoological Station. Dr. Anton Dohrn, the founder of the station, made the opening speech. After him Prof. Panceri, of Naples University, thanked Dr. Dohrn in the name of Italy for his great efforts in carrying the important work to a successful

result. The Prefect of Naples had sent a deputy, and many eminent scientific men were present. After the festival, the guests visited the magnificent aquarium and the working room of the zoologists; there are eighteen gentlemen now working there. The States which have reserved working tables at the Station are Prussia, Italy, Russia, Austria, Bavaria, Baden, Holland, Saxony, Alsace and Lorraine, and Mecklenburg; also, as our readers know, a table has been reserved for the University of Cambridge.

THE writer of the article on the *Times* Weather Chart in last week's NATURE (p. 473), requests us to state that the word "barograms" in the fourth paragraph should have been "isobars."

MR. EDWARD BELLAMY, F.R.C.S., will commence his course of lectures on "The Anatomy of the Human Form" in the theatre of the South Kensington Museum on Friday, 23rd inst., at 4 P.M.

M. WURTZ has tendered his resignation as professor in the Paris Medical School, and it appears to have been accepted; but before taking any definite step, M. Wallon has summoned a meeting of the professors to ascertain who they thought ought to be appointed Dean of the Faculty of Medicine.

ON April 16 a meeting of botanists from various parts of Scotland was held at Perth to hear the report of the committee (appointed at the Fungus Show held in Aberdeen last autumn) to organise a Scottish Cryptogamic Society. A constitution was adopted, and office-bearers were elected for the present year, the President being Sir T. Moncreiffe of Moncreiffe, Bart.; Vice-president, Prof. Dickie, Aberdeen; Secretary, Dr. Buchanan White, F.L.S. It is intended to have a show of cryptogamic plants, especially of fungi, every year in various districts of Scotland in rotation, and the show for this year is to be in Perth in the last week of September, when it is expected that a very large number of specimens will be exhibited. The Society will also adopt other means of promoting the study of Cryptogamic Botany, and it is possible that it will from time to time issue a few fasciculi of "New or rare Scottish Cryptogamic Plants." English cryptogamologists desirous of becoming corresponding members of the Society should communicate with the Secretary (Dr. Buchanan White, Perth), from whom information regarding the Society or the show may be obtained.

M. LEVERRIER being deeply engaged in his official work at the Observatory, has no time to deliver his regular course of lectures on astronomy at the Sorbonne. M. Wolf has been appointed by him as his substitute.

LARGE meteors were seen during the recent clear nights in different places in France; at Havre on the 12th, and at Paris on the 10th. The Paris meteor was seen at two o'clock in the morning; the direction was not specified, but the colour was green. The Boulevard St. Michel appeared as if it were illuminated. The Havre meteor was very large, going with an immense velocity from south-east to north-west.

THE first storm of the season in Central France was felt on April 7 in the department of Gers, near the small picturesque town of Lectoure. The spire of Saint Martin de Gorgue was almost demolished by a thunderbolt. Very few French churches, especially in small country places, are supplied with lightning conductors.

THE halo which was observed by M. de Fonvielle at Paris on the 12th of March, and also in England, was observed at the same time at Montsouris Observatory, about six miles south of Montmartre, and termed "a trace of halo," instead of a perfect one. As the moon had the same altitude for both observers, the icy cloud must have been suspended at a small distance, and nearer the zenith at Montsouris than at Montmartre. If

telegraphic signals were exchanged during their appearance, these phenomena could be discussed with great benefit to science. Auroræ Boreales were frequent during the beginning of March, which is in accordance with the opinion of meteorologists that they are caused by icy particles rendering the upper part of the atmosphere more conductive of electricity.

SIX useful lectures by Prof. Frankland on "How to teach Chemistry," originally delivered to science teachers, will shortly be published by Messrs. Churchill, from notes taken and edited, with Dr. Frankland's sanction, by Mr. George Chaloner, F.C.S.

WE hear that New College and Balliol College, Oxford, and the municipal authorities at Bristol, have finally determined to establish a new College of Science and Literature at Clifton. (See NATURE, vol. x. p. 93.) It is anticipated that 50,000*l.* will be raised for the buildings in Bristol. The two above-named Colleges have each promised 5,000*l.* towards the foundation, and it is said that they both intend giving a further sum towards the endowment.

THE Committee appointed to examine into the advisability of a new survey of Massachusetts (see NATURE, vol. xi. p. 381) have reported strongly in its favour, almost to the full extent desired by the scientific men whose advice they asked. To a small pamphlet on the subject which has just come to hand, is appended what we take to be the draft of an Act which the Committee advise the Senate and House of Representatives to pass. The Act recommends the appointment of a Board of seven persons, with the Governor and a Secretary. This Board will employ suitable persons to make a thorough topographical, geological, and biological survey of the State. The Board is to see to the preparation of a topographical map on the scale of 1 : 25,000, and also will prepare from the surveys enlarged maps on the scale of 1 : 10,000. Careful reports are to be prepared upon the geology of the State, with special reference to the discovery of coal, ores, and building material of economic value; also reports on the zoology and botany of the State, comprising catalogues of the animals and plants, with particular reference to those injurious and those beneficial to man. The proposed Act also provides that 30,000 dollars be annually appropriated for the expenses of the survey, and that yearly reports be presented to the Legislature. These provisions are on the whole satisfactory, and there is no doubt the Massachusetts Legislature will give them the force of law.

FROM the Seventeenth Report of the East Kent Natural History Society, we are glad to see that it continues prosperous, "losing nothing of its interest and usefulness." The total number of members is ninety-four. The Report contains a brief account of the Society's meetings during 1874, from which it would seem that the actual work of the Society is carried on by a very small proportion of the members.

THE additions to the Zoological Society's Gardens during the past week include an Australian Dingo (*Canis dingo*) from Australia, presented by the Zool. and Accl. Soc. of Victoria; a Crested Porcupine (*Hystrix cristata*) from W. Africa, presented by Mr. G. W. Venderkist; two Red-footed Crab-eating Raccoons (*Procyon cancrivorus*) from Demerara, presented by Mr. J. R. H. Wilton; an Impeyan Pheasant (*Lophophorus impeyanus*) from the Himalayas, presented by Capt. J. E. Whitting; a Rufous Tinamou (*Rhynchotus rufescens*) from Brazil, presented by the Viscount Hill; a Sharp-nosed Crocodile (*Crocodilus americanus*) from Jamaica, presented by Capt. A. M. Drummond; ten Green Lizards (*Lacerta viridis*) from Jersey, presented by Mr. G. E. Drage; a Quica Opossum (*Didelphys quica*) from Brazil, a Red Ground Dove (*Geotrygon montana*) from South America, purchased.